

TITLE: ANTIMICROBIAL ACTIVITY OF CAJEPUT, CAMEL GRASS, LEMON GRASS, CAT'S HERB AND SCOTLAND MINT ESSENTIAL OILS

AUTHORS: MARASCO, N.A.S.; GEROMEL, M.R.; FAZIO, M.L.S.

INSTITUTION: INSTITUTO MUNICIPAL DE ENSINO SUPERIOR - IMES, CATANDUVA, SP (AVENIDA DANIEL DALTO S/N, RODOVIA WASHINGTON LUIS, SP 310, KM 382, CATANDUVA-SP, BRAZIL)

ABSTRACT:

Phytochemicals, such as essential oils, are naturally occurring antimicrobials found in many plants that have been shown to be effective in a variety of applications by decreasing growth and survival of microorganisms. In addition, essential oils exhibit antimicrobial properties that may make them suitable alternatives to antibiotics. These potential attributes and an increasing demand for natural food additive options have led to an interest in the use of essential oils as antimicrobials. There has been an extensive search for potential natural food additive candidates that retain a broad spectrum of antimicrobial activity. Considering the aspects mentioned the objective of this study was to evaluate the antibacterial activity of cajeput (*Melaleuca leucadendron*), camel grass (*Cymbopogon schoenanthus*), lemon grass (*Cymbopogon citratus*), cat's herb (*Nepeta cataria*) and Scotland mint (*Mentha cardiaca*) using the method of diffusion in agar. For this purpose, filter paper disks of 6 mm in diameter, suitable for antibiogram assay, were impregnated with the essential oils. The disks were placed on Petri dishes with nutrient agar previously inoculated with the following microorganisms: *Bacillus cereus*, *Bacillus subtilis*, *Escherichia coli*, *Salmonella* Typhimurium, *Salmonella* Enteritidis and *Staphylococcus aureus*. The plates were subsequently incubated at 35 °C for 24-48 hours. The results showed that the lemon grass essential oil presented efficient antimicrobial activity against *B. subtilis* and *S. Typhimurium* (70 mm halos). The camel grass essential oil inhibited the growth of *B. cereus* (40 mm halo), *B. subtilis* and *S. Enteritidis* (25 mm halos); whereas the cajeput essential oil was effective against *B. cereus* and *E.coli* (22 mm halos). Cat's herb essential oil didn't inhibit any bacteria. It was concluded that the lemon grass essential oil exhibited higher efficacy against the tested bacteria.

Keywords: antibacterial action, lemon grass, essential oil, *Salmonella* Typhimurium.